



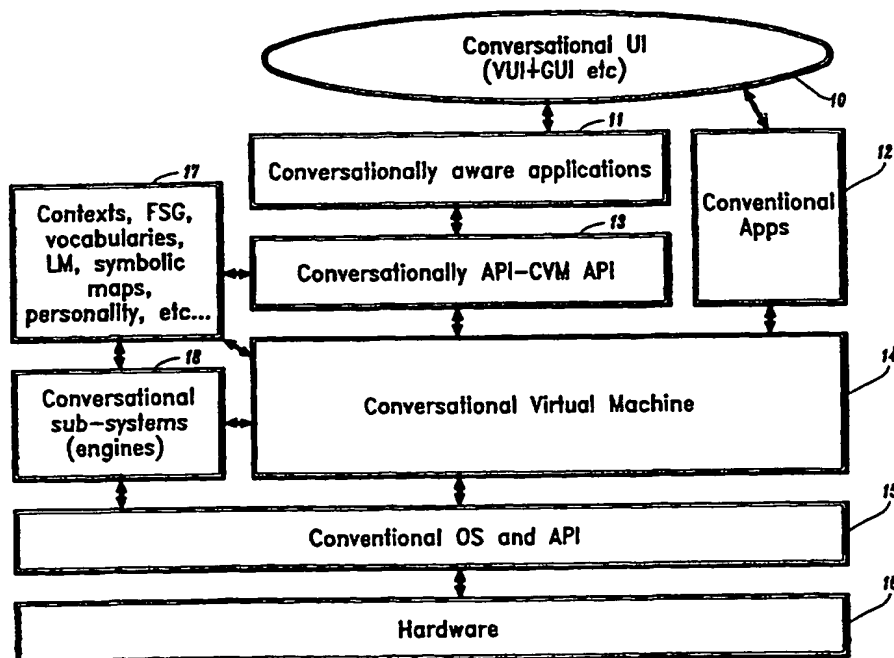
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(54) Title: CONVERSATIONAL COMPUTING VIA CONVERSATIONAL VIRTUAL MACHINE

(57) Abstract

A conversational computing system that provides a universal coordinated multi-modal conversational user interface (CUI) (10) across a plurality of conversationally aware applications (11) (i.e., applications that "speak" conversational protocols) and conventional applications (12). The conversationally aware applications (11) communicate with a conversational kernel (14) via conversational application APIs (13). The conversational kernel (14) controls the dialog across applications and devices (local and networked) on the basis of their registered conversational capabilities and requirements and provides a unified conversational user interface and conversational services and behaviors. The conversational computing system may be built on top of a conventional operating system and APIs (15) and conventional device hardware (16). The conversational kernel (14) handles all I/O processing and controls conversational engines (18). The conversational kernel (14) converts voice requests into queries and converts outputs and results into spoken messages using conversational engines (18) and conversational arguments (17). The conversational application API (13) conveys all the information for the conversational kernel (14) to transform queries into application calls and conversely convert output into speech, appropriately sorted before being provided to the user.



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INTERNATIONAL SEARCH REPORT

Inte. national application No.
PCT/US99/22927

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G10L 9/06; G06F 9/00

US CL : 345/326; 709/328

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 345/326; 709/328

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST; EAST; ACM; MSDN

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 5,884,266 A (DVORAK) 16 MARCH 1999, ALL	1, 5-8
A	US 5,794,205 A (WALTERS ET AL) 11 AUGUST 1998, ALL	1, 5-8
A	US 5,283,888 A (DAO ET AL) 01 FEBRUARY 1994, ALL	1
A	US 5,133,004 A (HEILEMAN JR. ET AL) 21 JULY 1992, ALL	1, 5-8, 16
A	US 5,255,305 A (SATTAR) 19 OCTOBER 1993, ALL	1

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P document published prior to the international filing date but later than the priority date claimed	

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Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer ALVIN OBERLEY Telephone No. (703) 305-8716 <i>FoR Eugenia Zogan</i>

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